

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: J P Taillebois <jpt1@idirect.com>  
Subject: 100-v mods  
Message-ID: <199612171416.JAA23178@nemesis.idirect.com>

In reading my manual for the 100-V , i found the following handwritten notes:

To increase mike gain: Add 910 ohms 1/2 watt res paralalled to R 254 (1.5k) on V1B

To increase vox delay time: Add 3900 ohms 1/2 watt res paralleled to R263(2.2k) on V3B

I also have added a variable bias control to improve idling current on the finals.

73

Jean Paul Taillebois 996 Greenlane court, Oshawa, Ontario,Canada M1K-2C6  
e.mail jpt1@idirect.com  
packet: ve3jpt@va3bbs  
voice:905-723-1811  
fax/data:905 723-9156  
Collector: Hallicrafters,Central-Electronic,Gonset, Military BA, antique radio memorabilia.

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>  
Subject: 1979?? AES Collins Ad in ER  
Message-ID: <199612171918.NAA09985@lesol1.dseg.ti.com>

Greetings,

The latest ER contains a full page ad for Collins gear purported to have been run by AES in 1979. Somehow, the prices, at thousands of dollars for the KWM-2 and S-Line, don't look right to me for 1979. Anybody else notice this ad willing to speculate on what the appropriate time frame was?

Regards,  
Bill Sorsby, N5BU

\*\*\*\*\*  
bill.sorsby@dlep1.itg.ti.com  
Views expressed herein are no one's fault but mine.  
\*\*\*\*\*

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: Ronnie Hull <larebel@ms1.nwla.com>  
Subject: 2B manual needed  
Message-ID: <1.5.4.16.19961217064540.1d17631e@ms1.nwla.com>

Gentleman

I am in need of a copy of manuals for the Drake 2-B, 2-BQ, and the crystal calibrator. I will gladly pay for copying and shipping.

Ronnie - W5SUM

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: marty@aa4rm.radio.org (locale for Marty Reynolds)  
Subject: 30-40 comm'l AM / KAAR?  
Message-ID: <199612171252.HAA07224@aa4rm>

Michael, I'm writing about that mystery Norge-refrig-styled KAAR 10-Z.

There's a big indication that a 30-40 mcs AM pre-war communications band once existed. The big indicator is a 400#+ RCA 19" racked 7-footer using 813s modulated by 805s in that same band. I think it's called a MI4311.

I put out an APB here on Aug. 3 (subject 1937 RCA VHF) & no one returned a glint of recognition.

So I bet the KAAR was a 1937-ish (6F7s & 807) xmtr for use in that 30-40 mcs AM pre-war communications band too. And it probably WASN'T hammish - KAAR was a comm'l radio supplier. I once vaguely remember hearing KAAR was a LI mfgr. that got stomped by the Galvin (Moto) / Armstrong FM 2-way eqpt.

Many readers here know that 30-40 mcs became the 1st comm'l FM allotment about 1939. So it seems if there was really a 30-40 mcs AM comm'l band around 1937 it never took hold... 'course 30-50 mcs FM was & still is THE police FM low band - a post-war allotment along with 88-108 for b'cast FM.\*

Now the 7' beast is mine but I've been unable to excise it from a basement tomb yet. The thought of a 60th anniversary (1937-1997) of the suspected former band increases the salvage appeal. We could use the 2 TXs on, say, 29.5 during an E-opening next summer.

The 7-footer has a nice RCA meatball too!

Color me curious too

Marty

\* RCA/Sarnoff implied their ratio-detected FM was right for the new allotment & Armstrong lim./disc. 30-40 mcs Phase Modulation was behind in the dust hence was owed no patent royalties.

It worked for the lawyers for years.

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: "Roberta J. Barmore" <rbarmore@indy.net>  
Subject: Re: 30-40 comm'l AM / KAAR?  
Message-ID: <Pine.SUN.3.91.961217090414.12329D-100000@indy2>

Tch, tch, tch!

Late 30s high-tech police radio in the big cities was on 9 meters--read, 30-40 Mc/s. And it was AM--low-deviation FM lay in the future. Several of the articles in "Radio" from that period detail transmitters for that band & purpose.

Prewar FM broadcasting was just \*above\* that region--don't have references to hand but 42 to 50something Mc/s sounds about right.

Why did police radio live at 9 meters? Simple; it's about the highest freq where "conventional" techniques can be easily used (with '37-'41 tech) and antennas are nice and short. We often forget that \*early\* police radio, in the 1500-1700 kc/s region, was a \*broadcast\* sort of service ("Calling all cars..."): the patrol cars could hear, but couldn't reply!

Ahh, but at 30Mc/s, all you need is a CB-sized whip and a dinky transmitter in the trunk. (Okay, and a converter under the dash feeding the car radio--which Faust Gonsett was already mass-producing). Something 5-meterish could have been used, but the only really simple, cheap receiver back then would've been a superregen: a bit too noisy and fussy for the boys in blue, who needed something about as simple and user-transparent as a telephone.

Seem to recall seeing ads for some Kaar gear in "Radio" in the period mentioned above--they were big players in the police-radio biz, and may well have turned out some ham gear as well. A Moto-2 way sized & shaped box doesn't ring any immediate bells, sorry.

One \*good\* source of info would be an old (or retired) police radio tech. I don't know if he's still alive, but one of our competing station's first transmitter techs had previously built the Indianapolis police radio system, before and during WW II. He'd know for sure. If I have a chance to ask the fellow who replaced him, I will.

73,  
--Bobbi

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: Morris Odell <morriso@vifp.monash.edu.au>  
Subject: Re: 30-40 comm'l AM / KAAR?  
Message-ID: <32B71422.1FD3@vifp.monash.edu.au>

Hi Bobbi and fellow anchorites,

> Why did police radio live at 9 meters? Simple; it's about the highest  
> freq where "conventional" techniques can be easily used (with '37-'41  
> tech) and antennas are nice and short. We often forget that \*early\*  
> police radio, in the 1500-1700 kc/s region, was a \*broadcast\* sort of  
> service ("Calling all cars..."): the patrol cars could hear, but couldn't  
> reply! Something  
> 5-meterish could have been used, but the only really simple, cheap  
> receiver back then would've been a superregen: a bit too noisy and fussy  
> for the boys in blue, who needed something about as simple and  
> user-transparent as a telephone.

The police museum here in Melbourne has an interesting section devoted to early police radio. Technology here was pretty much the same as that used in the US and of course we had an active electronics and radio industry in the first half of this century. Unfortunately the only installations shown are the mobile ones, not the central station gear.

The earliest sets shown are from the early 20s and look like crystal sets although they probably had a tube or two. They used CW (!) with specially trained earphoned operators in each car of the "Wireless Patrol". I'm sure this was initially receive only. The equipment was quite cumbersome and took up most of the back seat and looks like it had studded brass selector switches and other such fittings of the time. There is an actual rig in the museum but I must confess I usually just walk past it and haven't taken a close look for a while. Unfortunately I'm usually there after hours these days when the museum is shut.

In the early 30's they adopted "radiotelephone" which was probably some sort of low band AM judging by the size of the antennae. The set took up most of the boot (what Americans call the trunk) and the photographs just show black boxes which I'm sure contained lots of valves and

probably a genemotor power supply. Inside the car was a black telephone type handset. There are lots of photos of earnest tough looking detectives in suits and hats posing in their cars with this stuff.

These days the cops here use much more sophisticated equipment with a network of UHF and VHF repeaters. There were large HF antennas on the roof of the headquarters building they just vacated a year or so ago - I'm not sure what they were used for, probably for communication to outlying areas. Victoria is the second smallest state in Australia and the area not covered by mobile phones or the VHF/UHF network is probably shrinking rapidly. I have a police radio in my car - a Motorola UHF sandbox virtually identical to a lot of amateur gear used these days <sigh>.

BTW - I loved the descriptions of transmitter startup sequences. I've got a couple of books that describe it but not as graphically at what we have been treated to :-)

73

Morris

Morris Odell  
Forensic Physician  
morriso@vifp.monash.edu.au  
Australia

Victorian Institute of Forensic Medicine  
57-83 Kavanagh St, Southbank 3006  
Victoria,

Web page: <http://www.vifp.monash.edu.au/CFM/staff/mo.html>

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: TEKOCHE@aol.com  
Subject: 75-A1 Repair Services Needed  
Message-ID: <961217083716.975510485@emout15.mail.aol.com>

Well, I finally did it. In my past I was always told that there were pilots who had landed with the gear up and those that would. Well, I finally did it. I pumped the output of my Globe King directly into the antenna input of my 75A-1. Pretty well cooked the L6, the 80 meter RF coil. Things seem to work ok on 40-10 meters. Fortunately, the manual does tell you how many turns to rewind the coil but I am not sure I want to tackle that project.

Does anyone know a good experienced service person who might be able to take on this project? Or, has anyone encounter this repair themselves?

Tom Koch - W4UOC  
Atlanta, GA.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: John Kolb <jlkolb@cts.com>  
Subject: Re: 75A4 AM filter ala Digi Key - \*\*\* Danger Will Robinson!!! \*\*\*  
Message-ID: <Pine.SC0.3.91.961216225843.8608C-100000@sd.cts.com>

On Mon, 16 Dec 1996, George P Sieverson wrote:

> 3.1Khz mechanical filters. There was also an AM ceramic filter included  
> as a freebie. It was wired to a 9 pin plug in accordance with the ER  
> article. There is one aspect of that modification which should be  
> mentioned here, especially if implementing it on another radio.  
>  
> A mechanical filter is four terminal device. (OK, OK! Five if you  
> include the case ground.) The ceramic filter is a three terminal device.  
>

Well, a "real" ceramic filter is a 4 terminal + case device, like the old Collins Mechanical filters - not to be confused with the 3 terminal \$2.65 devices - they do have piezoelectric transducers, as do the new Collins filters, so there is no DC current flow through the device. I haven't seen the ER article, but it sounds like it wasn't designed correctly.

Now as soon as someone gives me a 75A-4 to play with, I'll design the AM filter mod right :)

John

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: k9gdt@juno.com (George P Sieverson)  
Subject: Re: 75A4 AM filter ala Digi Key - \*\*\* Danger Will Robinson!!! \*\*\*  
Message-ID: <19961217.202319.9958.0.K9GDT@juno.com>

On Mon, 16 Dec 1996 23:09:52 -0800 (PST) John Kolb <jlkolb@cts.com> writes:

Well, a "real" ceramic filter is a 4 terminal + case device, like the old Collins Mechanical filters - not to be confused with the 3 terminal \$2.65 devices.....

\*\*\*\*\*  
Hi John (and fellow) thermionic emissives,

You're absolutely correct about a "real" ceramic filter. About ten years

ago, I built a spiffy 0.5-2.0 Mhz sand state AM receiver with digital R/O. (Can I admit that here?) The radio got it's selectivity from a "real" ceramic filter I obtained at a hamfest. It's bandwidth was about 10Khz wide, with skirts which were VERY sharp and deep, ideal for LW listening and BCB DXing. It was even OK for casual monitoring of 160M AM, too.

I don't recall the MFR, but the filter was over an inch long, half an inch high, and maybe a quarter inch wide. It was a 4 terminal (+ GND ) component encapsulated in a shiny metal housing. I suspect the beast cost a whole lot more than \$2.95.

The 3 terminal filter which came with my 75A-4 was about the size of a small finger nail. It's shape was similar to a T0-220 transistor case, sans metal tab. There's one thing I remember about the way it worked. There was a secondary response about (-20 db) as I tuned 8-10Khz down the band. I don't know whether this behavior is typical or if I just got a funky \$2.95 part.

I suspect a 6Khz version of a "real" ceramic filter would offer performance more befitting a 75A-4.

Cheers,

George

\*\*\*\*\*

George Sieverson

Barrington, IL

K9GDT@JUNO.COM

\*\*\*\*\*

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996

From: Richard Hager <rhager@millcomm.com>

Subject: Re: 75A4 AM filter ala Digi Key//Vector 9kc AM filter FS

Message-ID: <32B638D5.4644@millcomm.com>

MIKE SANDERS wrote:

> Very impressed.

> It has been said before but I wanted to say it too. They work very well.

> One one hundreth of the cost of a Collins mechanical filter

This may already have been gone over, so I'll keep it short:

These little ceramic filters are great for the money, BUT, they have spurious responses outside the passband, and there've been some reports of dynamic range problems, that is, large signals producing spurious products in the filter itself. So while it may sound great under 'normal' or 'easy' conditions, test it

thoroughly before chopping any chassis!

The newer units with 7-9 poles in one package are much better in regards to out of band responses, and actually have pretty decent shape factor as well. Don't know about dynamic range issues on them.

Murata Erie has a pretty good databook on these, with applications info, that is free for the asking. Toyocom has a similar book.

Hope this helps. I LIKE the idea of \$2.65 vs \$150 !!

--

Richard Hager

+ Ah-ha! Design Group, Inc. -  
+ Precision CNC Technology, since 1991 -  
+ 612-641-1797, Fax: 612-641-8681 -  
+ "I just like to make things" So... -  
+ please call Ah-ha! directly for CNC info -  
+ <http://www.gdic.com/ahha> email: [ahha@gdic.com](mailto:ahha@gdic.com) -

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996

From: km1h@juno.com

Subject: 75A4 Filters, another source

Message-ID: <19961217.115303.7311.0.km1h@juno.com>

As a former 75A4 owner I have been following this discussion attentively.

Another source of filters for AM and SSB applications is the Murata line of ceramic filters. I do not mean the little 3 terminal units. Instead these are similar to the ones that you will see in the 455KHz IF of many import xcvs.

The CFM455H for instance has a 6-60dB BW of 6-15KHz (max) with a 45dB stopband performance attenuation. This is the lowest grade.

A higher quality version is the CFG455H or CFG455G. The 6-80dB BW (80 not 60) are 6-18KHz and 8-18KHz respectively. Typical skirt response is -85dB and worse case spurious is -70dB at approx 680KHz. A wide filter of 12-25KHz is also available.

For SSB and CW use the CFS and CFJ series are available at 3, 2.4, and 1KHz at the -6dB point.

The stickler here is that I am not aware of a US source for single quantities. I have been buying from CIRKIT of England. Prices in 1995



ranged from 6 to 14 Pounds Sterling for the cheapest to the best.

American orders are welcome and they honor Access, American Express, and Visa. Shipping via Air Small Packet is very cheap and Duty on small value orders is often zero when you pick up at your local PO.

A catalog is available. FAX a request to (this is the complete dialing sequence from W/VE) 011 44 992 471314.

If you are interested in the complete line of TOKO products ask for that catalog also. Their typical coil prices are a fraction of Digi Key, etc. and they have a wide range of IF cans for impedance matching, etc.

I hope this is of interest to a few. I also have the telephone number and mail address if anyone wishes it.

73.....Carl

Now, if I can only buy back my old A4 with the 7360 mixers, 6GM6 RF amp, hang AGC, cascaded filters, etc.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996

From: "William B. Ross" <billross@txdirect.net>

Subject: Re: Airbone SSB

Message-ID: <32B6240D.3003@txdirect.net>

D.D. Todd wrote:

>

> John Kolb wrote:

>

> > The story goes that during one of the exercises back in the late 70's,  
> > that someone messed up one of the test msgs and left off the "this is  
> > a drill" part, so the people making up the coded msgs thought we were  
> > really being attacked. I heard that all of a sudden that the voices  
> > were no longer the calm, cool, bored sound "Sky King, Sky King, this is  
> > .." but rather frantic sounding.

>

> It's fiction, as far as I know. I was in SAC from 1957 until 1975 and I

> > CQ magazine once did a conversion article on the Collins radio from  
> > the B-52's, which was in a cannister shape, and run completely by  
> > remote control, but never saw any of the radios offered for sale  
> > after that. If the radios were only for the B-52's guess there weren't  
> > ever enough to make much of a splash in the surplus market.

I'm not sure if this is in reference to the same radio but if so, they may also have been on earlier aircraft. At least I saw many Collins "cannister" radios in the salvage yard of Kelly AFB in the early 70s and

a friend of mine has one intact in his garage as a BA conversion project he has not yet gotten to. These were little more than repackaged ART-13s with an 813 modulated by a pair of 811s but in a completely enclosed cannister and operated by remote control. I was told that they resided in the tail section of the aircraft.

Bill Ross K5LLK

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: Spencer Petri <spetri@e-tex.com>  
Subject: Amperite Delay Relays  
Message-ID: <m0va5W1-00000pC@e-tex.com>

Firebottle Folks,

While cleaning out a box o' goodies I came across 2 ea 12N090 delay relays, NOS. These fit octal sockets, 90 second delay at 12 volts. Anyone interested, \$10 for both + \$3 postage.

73 de Pete WA5JCI

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: "Roberta J. Barmore" <rbarmore@indy.net>  
Subject: Anent step-start, fils\*, etc.  
Message-ID: <Pine.SUN.3.91.961217092345.12329E-100000@indy2>

Hi!

First off, for the cajuns & Quebequers in the crowd, "fils" in the Subject: field above does not refer to male offspring. :) (And apologies to the French-Canadian contingent, I can't seem to spell the proper plural form this morning) (At least I have the grace to be embarrassed about it...).

Nope, 'tis back on to filaments, starting up transmitters, and which end the smoke's supposed to come out of.

Classically, "step-start" was applied to the \*high-voltage\* power supply. There's no reason why one \*can't\* do the same thing in the filament, but the big boys generally didn't, probably for cost reasons. (It's in the HV to control inrush--magnetizing the plate transformer and charging up the filter condensers)

There's an order in which things should start up in a big rig, and it's (almost) universal. I'll list it, then walk through start-up of a

"generic" tube-type broadcast transmitter using tetrode finals.

The order:

Airflow

Filaments

Bias

Plates

Screens

Drive (EXCEPT: if you're getting all the bias on the finals from the drive--then drive comes up when the bias supplies do).

Here's the "manufacturer's suggested version" of start-up:

So, DJ/Op Flip Lidly walks into the transmitter room at WXXX at oh-dark-thirty of a morning. The rig sits there, ticking a bit as the heaters in the crystal oven (which is never unpowered) cycle on and off.

The op hits "PLATE ON." Yep, "Plate." The blowers spool up and the moving air closes a sail or pressure-differential switch, allowing the filament contactor to close: CHUNK! Once it has closed, a time-delay of 30sec to 2 minutes starts counting.

The time-delay times out, and the bias (and plate for most of the low-level stages) turns on.

Once the bias relay has closed, the plate contactor clunks in: BANG! If step start is used, another delay relay, set very short, times out and shorts a healthy resistor in series with the primary of the plate transformer a second or so after the plate contactor closes. Plate voltage meter quivers up and steadies; plate current kicks up to less than the idling value. The merc-vapor rectifiers flicker and glow pale blue.

After the plate contactor has closed and the step-start has timed out, the screen voltage is turned on. Plate current tics up to the idling level. (Why do we turn on the screen only *after* the plate? 'Cos the screen would very much like to be a plate--but it hasn't enough oomph, and will be hurt badly in the attempt!)

Now that the screen contactor has closed, the oscillator is unmuted. Plate current comes up to normal operating value; the RF ammeter glides up to licensed current. We're on the air!

In the booth, good ol' Flip takes another puff on his smoke, gulps some coffee, opens the mic and intones, "WXXX, Camden," then rolls the national anthem. Another day begins.

Anyhow, that's how RCA, Collins, Gates, et. al. would have it.

In the real world, *nobody* (NOBODY!) trusts the plate delay relay, which is usually set far shorter than seems right. (RCA allowed 30 seconds for the big F-line TV rig, on tubes pulling 150A at 9.5V!) So the op is more likely to hit "FILAMENT ON," the airflow starts, fils come on...then go start the coffeepot and smoke like a fiend while "the transmitter heats up." After ten or fifteen minutes, one hits "PLATE ON" and the start-up sequence proceeds as dscribed.

In many cases, especially very old rigs late in their life, the filaments were simply left on all the time--did that with the 1947 Collins

at a station in the late '70s, as well as the ('78 vintage) F-line at WTHR. (Though other factors affected the latter--darned mesh fils \*grow\* at every turn on/off cycle and short out in a hurry!)

Generally, all of this "after X is on, Y is allowed on" stuff is done by pure brute force: delay relays and auxiliary contacts on relays. Some designers did check for the actual presence of voltage and/or current but others (RCA is typical) relied on the interlocks and overloads to interrupt the sequence if there was trouble. Either way works, but you've \*got\* to have something or the rig simply fries itself automatically in the start-up. The degree to which overlocks & interloads are directly incorporated in the control ladder (which is what we call all this start-up folderol and just what the schematic looks like, too!) depends on the complexity of the rig, personal preferences of the design team, and the price of relays at the time. :)

In the case of the F-line, the full control-ladder schematic \*alone\* was about 2' wide and 12' long and encompassed 60-70 relays; the interlock/overload setup was another print that size and a half-dozen C-sized drawings for logic boards (an odd mix of relays, discrete sand and TTL that was a sure headache-producer).

On the other hand, the control ladder for a Collins 20V3, RCA BTA5U2, et smallish AM rig cetera can be drawn on the back of a business-sized envelope if you draw small.

The point of all this? There's more to turning a rig on without frying it than we might think--especially if the operator is assumed to \*not\* be inclined to watch meters and be generally wary!

If a ham were inclined to such complexity, the readily-available octal-base relays would be a nice way to go; for kW rigs, "furnace relays," nice common high-current contactors, would do just fine for the fil & plate primary contactors.

73,  
--Bobbi

(PS: this is a re-post for an article my provider's system \*ate.\* It was done in a tearing hurry without much editing. The basic sequences are correct but spelling and punctuation are apt to be iffy).

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: Bob Roehrig <broehrig@admin.aurora.edu>  
Subject: Re: Anent step-start, fils\*, etc.  
Message-ID: <Pine.ULT.3.95.961217101811.7618B-100000@admin.aurora.edu>

On Tue, 17 Dec 1996, Roberta J. Barmore wrote:

> Classically, "step-start" was applied to the \*high-voltage\* power  
> supply. There's no reason why one \*can't\* do the same thing in the  
> filament, but the big boys generally didn't, probably for cost reasons.  
> (It's in the HV to control inrush--magnetizing the plate transformer and  
> charging up the filter condensers)

Hi Bobbi. Thanks for the dope. The older Gates and RCA's I worked on  
(1KW stuff) were prettty chintzy on stuff like that. There were some  
thermal delays in the Gates FM rigs though. In My Johnson Desk KW,  
I use one of the old 600 watt space heater elements (screws into  
standard lamp socket) for the inrush resistor on the plate transformer.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI  
CIS: Data / Telecom Aurora University, Aurora, IL  
630-844-4898 Fax 630-844-5530

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: vancleef@netcom.com (Henry van Cleef)  
Subject: Re: Anent step-start, fils\*, etc.  
Message-ID: <199612171932.MAA13409@netcom6.netcom.com>

As Roberta J. Barmore discourses

>  
>  
> Nope, 'tis back on to filaments, starting up transmitters, and which  
> end the smoke's supposed to come out of.  
> Classically, "step-start" was applied to the \*high-voltage\* power  
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> charging up the filter condensers)  
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> There's an order in which things should start up in a big rig, and  
> it's (almost) universal. I'll list it, then walk though start-up of a  
> "generic" tube-type broadcast transmitter using tetrode finals.  
> The order:  
> Airflow  
> Filaments  
> Bias  
> Plates  
> Screens  
> Drive (EXCEPT: if you're getting all the bias on the finals from the  
> drive--then drive comes up when the bias supplies do).  
>

(Most enjoyable real world description of lighting up a broadcast transmitter deleted).

> Generally, all of this "after X is on, Y is allowed on" stuff is done  
> by pure brute force: delay relays and auxiliary contacts on relays. Some  
> designers did check for the actual presence of voltage and/or current but  
> others (RCA is typical) relied on the interlocks and overloads to  
> interrupt the sequence if there was trouble. Either way works, but you've  
> \*got\* to have something or the rig simply fries itself automatically in  
> the start-up. The degree to which overlocks & interloads are directly  
> incorporated in the control ladder (which is what we call all this  
> start-up folderol and just what the schematic looks like, too!) depends on  
> the complexity of the rig, personal preferences of the design team, and  
> the price of relays at the time. :)

>  
I recall in the late fifties looking at Collins and Gates startup sequencing for their FM transmitters when we were designing the GEL transmitter line. "GEL" was "General Electronics Laboratories," which vanished in the sixties. The transmitters were actually built in the old General Radio building at 275 Mass. Ave., Cambridge, Mass., which GEL either bought or leased after GR went "country."

The GEL line was designed around Eimac ceramic tetrodes by a group of people who were primarily designers of military RF stuff. In some ways, the project was "the ultimate ham transmitter"---although FM is halfway between 6 and 2 meters, and the boxes put out more than 1KW---I think the biggest was 15KW.

Our boxes used Aga time delay relays. As I recall, these were pneumatic jobs, with screw adjustments that would adjust the orifice size to control the delay. Put power on one, and its solenoid would pull in, compressing the air in the timer dashpot. After a while, the relay would operate.

I'm trying to remember back about 35 years, but I recall that there were two pairs of pushbuttons, for starting them up from cold. One pair, on the left, was "filaments." The other pair, on the right, was "plate." You had to do "filaments" first---the "plate" contactors would not work unless "filaments" had cycled.

In a station, Omar J. Goosehonk, morning man, would walk into the building. The exciter was already "up"---our exciters were meant to be left on 24/365. Push the "filaments" button, light a cigarette, and go out and get the coffee started. Then go check out the studio, find "the book" (that had the program schedule in it), and check for a stack of spinnable platters that resembled "the book." If not, race over to the record library and pull some platters to spin (more often the cast than not).

If all went well, the transmitter power supplies came up in sequence. The filament transformers for the rectifiers and transmitting tubes all were "wye" connected to the main power. This gave the filaments 60% power for warmup. After about 45 seconds, a contactor clanked over to "delta" connect them. I've forgotten if the bigger boxes had some provision for 30-60-100% sequencing, but do recall the wye-delta trick. After the filaments had "cooked" for a bit, as supposed insurance against flashovers and backfires, the rectifiers got hit with plate voltage and there was purple glow. Things sat this way until Omar finished his cigarette, got a cup of coffee, had the book, and a pile of platters. Then it was a stroll back to the transmitter and push "plate." These operated, as I recall, an undelayed sequence. Protective bias provided power for the plate relays, contacts on the plate relays allowed the screen relays to close, and this put the transmitter on the air. My recollection is that RF drive was applied by the presence of final plate and screen, driving contactors for the same in the buffer. Also, that there were extra relays in the chain to drop out the plate voltage if screen voltage vanished (an attempt to be "fail safe"). The screen supplies in the final and buffer were fed from motor-operated Variacs, and there were front panel telephone keys for "raise" and "lower," to control buffer and final output power. This setup was designed to use remote controls for the two contactor sequences and screen voltage.

In retrospect, if any of us knew what the term "ladder controller" meant, I wasn't among them. As I recall, the Aga relays were placed in the back corners of the cabinet, and the power relays were put near the controlled supplies. I was still pretty junior at the time, so just did what my elders and betters told me to do, but I think if I were doing this today, I would put more thought into logical placement of the relays and contactors. It wasn't until I did some work for an outfit called "Modicon" in the late seventies that I got tuned into "ladder controllers," and I think if I were doing this with semiconductors, I'd put the controls in a box separate from the high power stuff. I think Modicon has survived things like being a part of the Gould empire for a while. Sprague also makes (or at least did make) programmable controller devices for machine tools, and one of these boxes would do very well sequencing a commercial transmitter.

> The point of all this? There's more to turning a rig on without  
> frying it than we might think--especially if the operator is assumed to  
> \*not\* be inclined to watch meters and be generally wary!

Thirty or forty years ago, we could assume that someone with at least a second class phone license was pushing the buttons---although that wasn't always true. Nowadays, with all those licenses gone, we have to assume that who is operating these controls is just anyone, a board

op, etc., whose exposure to automatic sequences may have been at a MacDonalds restaurant.

>

> If a ham were inclined to such complexity, the readily-available  
> octal-base relays would be a nice way to go; for kW rigs, "furnace  
> relays," nice common high-current contactors, would do just fine  
> for the fil & plate primary contactors.

>

Yup. The problem, of course, with relays is that they give trouble, and the more relays, the more trouble. But putting in something that will automatically disconnect plate voltage on loss of screen, and disconnect all power on loss of drive/bias does make sense----main breakers tend to blow after the electronics melt down, and waking up to loss of screen and bias generally comes as part of the meltdown.

--

=====

Hank van Cleef

E-mail [vancleef@netcom.com](mailto:vancleef@netcom.com) or [vancleef@tmn.com](mailto:vancleef@tmn.com)

=====

From [boatanchors@theporch.com](mailto:boatanchors@theporch.com) Tue Dec 17 22:22:05 1996

From: Bob Rolfness <[rsrolfne@atnet.net](mailto:rsrolfne@atnet.net)>

Subject: Re: Anent step-start, fils\*, etc.

Message-ID: <32B72579.628E@atnet.net>

Bobbi - A well done post. I can attest to the start up procedure for as a student I worked as a transmitter man at a 5 KW directional AM college station.

In those days [late 1950s] any station running more than 5 KW and or with directional phased array antenna had to have a First Class Radio Telephone license on duty at the transmitter.

Over several years it became my duty to fire up, operate, and shut down the Western Electric transmitter which had been designed in the late 1930s. This rig's finals [2 large triodes in a Dorethy pair configuration] used direct heating filaments and the start up procedure used was to first turn the air on, then bring the filaments to operating voltage in several steps over a 15 minute period. Then drive and HV. After the rig was "on the air", the filament voltages [each tube independently controllable] was reduced very slowly until a plate current for that tube could be just noticed, then increased a "little".

For shut down, just the opposite, with air being held on the tubes for 15 minutes after removal of all voltages.



This procedure worked great as college student help was cheap <grin> and those old large copper finned triodes loved the care and affection. I never saw a final tube replaced in the transmitter during the several years I was there. I believe the pair being used at the time had over 10 years of service on them and were going strong.

73's Bob W7VZX

Roberta J. Barmore wrote:

>  
> Hi!  
>  
> First off, for the cajuns & Quebequers in the crowd, "fils" in the  
> Subject: field above does not refer to male offspring. :) (And  
> apologies to the French-Canadian contingent, I can't seem to spell the  
> proper plural form this morning) (At least I have the grace to be  
> embarrassed about it...).

>  
> Nope, 'tis back on to filaments, starting up transmitters, and which  
> end the smoke's supposed to come out of.  
> Classically, "step-start" was applied to the \*high-voltage\* power  
> supply. There's no reason why one \*can't\* do the same thing in the  
> filament, but the big boys generally didn't, probably for cost reasons.  
> (It's in the HV to control inrush--magnetizing the plate transformer and  
> charging up the filter condensers)

>  
> There's an order in which things should start up in a big rig, and  
> it's (almost) universal. I'll list it, then walk through start-up of a  
> "generic" tube-type broadcast transmitter using tetrode finals.

> The order:  
> Airflow  
> Filaments  
> Bias  
> Plates  
> Screens  
> Drive (EXCEPT: if you're getting all the bias on the finals from the  
> drive--then drive comes up when the bias supplies do).

>  
> Here's the "manufacturer's suggested version" of start-up:  
> So, DJ/Op Flip Lidly walks into the transmitter room at WXXX at  
> oh-dark-thirty of a morning. The rig sits there, ticking a bit as the  
> heaters in the crystal oven (which is never unpowered) cycle on and off.

> The op hits "PLATE ON." Yep, "Plate." The blowers spool up and the  
> moving air closes a sail or pressure-differential switch, allowing the  
> filament contactor to close: CHUNK! Once it has closed, a time-delay of  
> 30sec to 2 minutes starts counting.

> The time-delay times out, and the bias (and plate for most of the  
> low-level stages) turns on.

> Once the bias relay has closed, the plate contactor clunks in: BANG!  
> If step start is used, another delay relay, set very short, times out and  
> shorts a healthy resistor in series with the primary of the plate  
> transformer a second or so after the plate contactor closes. Plate voltage  
> meter quivers up and steadies; plate current kicks up to less than the  
> idling value. The merc-vapor rectifiers flicker and glow pale blue.

> After the plate contactor has closed and the step-start has timed out,  
> the screen voltage is turned on. Plate current tics up to the idling  
> level. (Why do we turn on the screen only *after* the plate? 'Cos the  
> screen would very much like to be a plate--but it hasn't enough oomph, and  
> will be hurt badly in the attempt!)

> Now that the screen contactor has closed, the oscillator is unmuted.  
> Plate current comes up to normal operating value; the RF ammeter glides  
> up to licensed current. We're on the air!

> In the booth, good ol' Flip takes another puff on his smoke, gulps  
> some coffee, opens the mic and intones, "WXXX, Camden," then rolls the  
> national anthem. Another day begins.

>

> Anyhow, that's how RCA, Collins, Gates, et. al. would have it.

> In the real world, *nobody* (NOBODY!) trusts the plate delay relay,  
> which is usually set far shorter than seems right. (RCA allowed 30  
> seconds for the big F-line TV rig, on tubes pulling 150A at 9.5V!) So the  
> op is more likely to hit "FILAMENT ON," the airflow starts, fils come  
> on...then go start the coffeepot and smoke like a fiend while "the  
> transmitter heats up." After ten or fifteen minutes, one hits "PLATE ON"  
> and the start-up sequence proceeds as dscribed.

> In many cases, especially very old rigs late in their life, the  
> filaments were simply left on all the time--did that with the 1947 Collins  
> at a station in the late '70s, as well as the ('78 vintage) F-line at  
> WTHR. (Though other factors affected the latter--darned mesh fils *grow*  
> at every turn on/off cycle and short out in a hurry!)

>

> Generally, all of this "after X is on, Y is allowed on" stuff is done  
> by pure brute force: delay relays and auxiliary contacts on relays. Some  
> designers did check for the actual presence of voltage and/or current but  
> others (RCA is typical) relied on the interlocks and overloads to  
> interrupt the sequence if there was trouble. Either way works, but you've  
> *got* to have something or the rig simply fries itself automatically in  
> the start-up. The degree to which overlocks & interloads are directly  
> incorporated in the control ladder (which is what we call all this  
> start-up folderol and just what the schematic looks like, too!) depends on  
> the complexity of the rig, personal preferences of the design team, and

> the price of relays at the time. :)

>

> In the case of the F-line, the full control-ladder schematic \*alone\*

> was about 2' wide and 12' long and encompassed 60-70 relays; the

> interlock/overload setup was another print that size and a half-dozen

> C-sized drawings for logic boards (an odd mix of relays, discrete sand and

> TTL that was a sure headache-producer).

> On the other hand, the control ladder for a Collins 20V3, RCA BTA5U2,

> et smallish AM rig cetera can be drawn on the back of a business-sized

> envelope if you draw small.

>

> The point of all this? There's more to turning a rig on without

> frying it than we might think--especially if the operator is assumed to

> \*not\* be inclined to watch meters and be generally wary!

>

> If a ham were inclined to such complexity, the readily-available

> octal-base relays would be a nice way to go; for kW rigs, "furnace

> relays," nice common high-current contactors, would do just fine

> for the fil & plate primary contactors.

>

> 73,

> --Bobbi

>

> (PS: this is a re-post for an article my provider's system \*ate.\* It

> was done in a tearing hurry without much editing. The basic sequences

> are correct but spelling and punctuation are apt to be iffy).

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
 From: jproc@bellglobal.com  
 Subject: Re: Anyone tried to tally HRO variants  
 Message-ID: <Chameleon.4.01.2.961217182635.jproc@>

Dear BA'ers,

A while back we had a thread on how the HRO got its name. Listed below is an excerpt from my radio research paper:

\*\*\*\*\*

One of the most classic radio receivers ever made was the National HRO. The way in which the model number of the receiver was designated is interesting, and the story is related by Ed Gable who is on the Board of the Directors of the Antique Wireless Association (AWA) and a former employee of the National Company.

"Several years ago, I had the pleasure of visiting with James Millen, the former president of National at his estate outside

Boston. This was a special occasion since he was donating his entire, collection of National equipment to the AWA. It was there that he gave us his personal, original, 1935 vintage HRO receiver, as well as a truck full of historical artifacts from the National company. At that time, James retold the story to myself and to several others. At the National plant, certain work orders in their pre-production shop were marked HOR for 'Hell of a Rush' order. James (and probably Dana Bacon) decided that should be the name of their new receiver but even in those days, HOR was politically incorrect so the letters were switched to HRO. The rest is history".

\*\*\*\*\*

Regards,

-----  
Jerry Proc VE3FAB  
E-mail: jproc@bellglobal.com  
Radio Restoration Volunteer  
HMCS Haida Naval Museum  
Toronto, Ontario  
-----

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: "William B. Ross" <billross@txdirect.net>  
Subject: Re: Anyone tried to tally HRO variants?  
Message-ID: <32B625CA.136A@txdirect.net>

But does anyone know the origin of the initials HRO or what they stand for?

Bill Ross K5LLK

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: "Fell, Joseph H" <Joseph.Fell@unisisys.com>  
Subject: RE: Anyone tried to tally HRO variants?  
Message-ID: <c=US%a=%p=UNISYS%l=TR\_EXCHANGE\_-961217150435Z-34298@tr-exchange-2.tr.unisisys.com>

It is my understanding that the original term used at national during

the time the HRO was  
being developed was HOR. This stood for "Hell of a Rush". The HRO was  
on a very tight  
development cycle and everybody was trying to get it out fast. National  
felt the HOR  
designator would have created a less than ideal image for National. The  
powers at  
National simply switched the letters around which became HRO.

Regards, Joseph Fell WA3GMS

>  
>But does anyone know the origin of the initials HRO or what they stand  
>for?  
>  
> Bill Ross K5LLK  
>

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: km1h@juno.com  
Subject: Re: Anyone tried to tally HRO variants?  
Message-ID: <19961217.123401.7311.7.km1h@juno.com>

You are close according to what I was told by the OT's when I was at  
National 1963-69.

Try "Hell of a Rush Order". True or not, I cant say.

73.....Carl

On Tue, 17 Dec 1996 09:05:33 -0600 (CST) "Fell, Joseph H"  
<Joseph.Fell@unisisys.com> writes:

>  
>  
>It is my understanding that the original term used at national during  
>the time the HRO was  
>being developed was HOR. This stood for "Hell of a Rush". The HRO was  
>on a very tight  
>development cycle and everybody was trying to get it out fast. National  
>felt the HOR  
>designator would have created a less than ideal image for National.  
>The  
>powers at

>National simply switched the letters around which became HRO.  
>  
>Regards, Joseph Fell WA3GMS

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: Nathalie Guibert <nguibert@mail.accent.net>  
Subject: Arrow Sales  
Message-ID: <1.5.4.16.19961217123549.19d74438@mail.accent.net>

Anybody would know if Arrow Sales in North Hollywood Cal. are still active. Their catalogue is still my bible for BAs.  
Andre  
My catalogue is worn out, so many photocopies, any one would have spare, thanks.

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: Albert S Woodhull <aswNS@hamp.hampshire.edu>  
Subject: auction in Amherst MA  
Message-ID: <Pine.SUN.3.91.961217151718.5819B-100000@hamp>

This may be too late for anyone to take advantage of it, but perhaps it will be of interest to someone.

My wife brought to my attention an ad for the Pioneer Valley Auction, here in Amherst, MA, that mentioned ham radio equipment along with a lot of other stuff. The auction is tonight (Dec 17). We went to view it this afternoon.

There is an interesting lot of stuff there. Mostly boatanchors. Two SX-100s, an HT-20, a Harvey-Wells Bandmaster Senior, two Gonset Communicator IIs (2 meters), and one Gonset 2 meter linear amp. There is a lot of other non-ham stuff -- some CB, some commercial or aviation radios, a number of Heathkit test instruments, and about a half dozen high power Heath audio amps. There are boxes of tubes and other miscellaneous parts, too. I asked, and individual items will be brought up on request, whatever is left will be sold as a lot.

The other stuff includes a lot of tools, and several plastic-bodied gocarts, as well as the usual furniture and knickknack household stuff. Apparently it is the estate of an heir to the old Sprague company, and he had several hobbies.

Realistically, I don't need need another BA in my garage in the pile of stuff I am waiting to have time for, so I don't think I will even bother to go to the auction. I'm tempted, but it's the wrong time of the wrong

year for that. Maybe I'll recognize some of this stuff at a flea market some time in the next year or so.

Anyway, I thought I would mention it to the list. If there is anyone within a few hours of here, the auction is scheduled to start at 6 p.m. (It's 3:30 as I write).

73, Al N1AW

--

Al Woodhull  
awoodhull@hamp.hampshire.edu  
<http://minix1.hampshire.edu/asw/>  
n1aw@k1mea.#wma.ma.usa.na

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: Ronnie Hull <larebel@ms1.nwla.com>  
Subject: BA's and cold weather  
Message-ID: <1.5.4.16.19961217064255.1d17318c@ms1.nwla.com>

Greeting fellow Boatmen!

I woke up this morning to ice fog and very cold temps, and getting colder for the rest of the week. This is abnormal for northern louisiana this time of year. Now for my question, I have a 388, 390,391, and several pieces of Johnson gear stored (temporarily) in a U-build it 10 X 14 building out back. What, if any, negative affects can this have on old gear? Will the cold crack plastic and ruin switches? Should I emmediatley bring them into the house, and caringly put them somewhere safe to thaw? Is it too late? will the warm up produce sweating (an almost sure thing) that will cause more damage? Will Santa bring me anything cuz of this? LOL

this may have been somewhat off the subject, but should be a concern of all of us with heavy metal stored around our houses!!

Ronnie

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: Barry Entlich <entlich@bartal.com>  
Subject: Re: BA's and cold weather  
Message-ID: <199612171825.NAA24472@bartal.com>

Hi BAers--

Ronnie Hull wrote, in part:

> I woke up this morning to ice fog and very cold temps, and getting colder  
> for the rest of the week. This is abnormal for northern Louisiana this time  
> of year. Now for my question, I have a 388, 390, 391, and several pieces of  
> Johnson gear stored (temporarily) in a U-build it 10 X 14 building out back.  
> What, if any, negative affects can this have on old gear? Will the cold  
> crack plastic and ruin switches? Should I immediately bring them into the  
> house, and caringly put them somewhere safe to thaw? Is it too late? will  
> the warm up produce sweating (an almost sure thing) that will cause more  
> damage? Will Santa bring me anything cuz of this? LOL

I don't want to get into a debate as to whether BA equipment was designed to tolerate the conditions described, or not. I'd like to suggest a way of dealing with the problem of condensation on cold items brought into a sufficiently humid and warm environment.

Condensation can form when warm, moisture-laden indoor air is cooled at the surfaces of the BA. If the air cools to its dew point, the surface will "sweat". My solution to this is simple -- I place the item in a plastic bag, and tie the bag closed, before bringing it inside. This won't eliminate condensation, it just restricts it to the outside of the bag. I don't open or remove the bag until the equipment comes up to room temperature.

Of course, the bag needs to be well sealed, so make sure there are no holes. For BAish equipment, I've sometimes used "super heavy duty" garbage sacks. Just make sure you remove the bag as soon as the BA is warmed up, because "some people" don't need much of an excuse to "accidentally" dispose of certain things ;-)

73 -- Barry Entlich ex-WB2ADX entlich@bartal.com

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: bill@skeeter.frco.com (William Hawkins)  
Subject: Re: BA's and cold weather  
Message-ID: <9612180213.AA26208@skeeter.frco.com>

Bought an ART-13 from Fair a couple of years ago, when I was fascinated by Collins autotuning. The thing reeked of mildew, so I tried many ways to get rid of the smell, including leaving it out in 25 below zero F weather in December in Minnesota. Didn't help at all. Mothballs were better. Never did fire it up (don't have a ticket), but I traded it a year ago and never heard back about any problems.

Your Mileage May Vary, as they say ...

Regards,



Bill Hawkins

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: Larry Keith <KQ4BY@IX.NETCOM.COM>  
Subject: Buckeye BA Bargains..  
Message-ID: <32B74B89.7444@IX.NETCOM.COM>

I quote from a letter that I received from Bob Mowery, W8RG:

"I don't have any other amateur radio equipment to dispose of at this time but must get rid of my collection of QSTs which dates from August 1957. Also, I have some old audio equipment which I should part with. It includes a Scott LK-48 amplifier and the matching Scott LT-10 FM tuner. I built both the units from kits. Although I haven't fired them up for several years they should be in working order..... If you hear of anyone interested in such equipment, please let me know or give them my address or phone number to contact me."

Bob's address is: 3591 Clearview Ave.  
Columbus, OH 43220-5014

Telephone: 614-451-2181

If you talk to him, tell him that I sent you and that I am very pleased with the HQ-160 that he sent me.

73,

Larry, KQ4BY

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: billo@nti.net (Bill Wilson)  
Subject: CEI 100V; No hum here  
Message-ID: <19961217190909585.AAA220@LOCALNAME>

I just got off 40 SSB using the 100V. I talked with a person in SC who knows the 100V and he could not hear (or see, he had a scope) any hum with the audio. He also had a digital playback unit and played back some of my audio, it sounded fine. I was using a unamplified D-104 with the "AM" head...I also use the 10DA "sideband" head as well...most prefer the 10DA head if conditions are good.

The serial number on the rig here is #971. After reading Bill Sorsby's posts about the mica "postage stamp" style caps, I checked the radio here. They all appear to be disc ceramic and dipped mica style.

Either someone changed them out or during the production they changed over to the better caps.

Regards and Happy Holidays,

Bill  
AC4LC

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: jmiller@teleteam.net (Jay H. Miller)  
Subject: Collins Collectors Assn. Web Page Up!  
Message-ID: <v01540b01aedcd35f8609@[199.34.24.1]>

The Collins Collectors Association unveiled their new home page this afternoon. Please drop by and visit the site.

[http://www.teleteam.com/~jmiller/cca\\_html/ccahome.html](http://www.teleteam.com/~jmiller/cca_html/ccahome.html)

Thanks!

\*\*\*\*\*  
Jay H. Miller, KK5IM Dallas, Texas  
The Pocket Guide to Collins Amateur Radio Equipment  
AMI#846 Collins Collectors Association  
E-Mail: jmiller@teleteam.net  
Visit My Home Page: <http://www.teleteam.com/~jmiller/>  
\*\*\*\*\*

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: n5off@w5ddl.aara.org  
Subject: ER Collins Ad  
Message-ID: <532184@w5ddl.aara.org>

I didn't get my ER yet, but this is what was in 73 of 1977.

Hamtronics of Trevese, PA

KWM-2A \$3533  
75S-3C \$2540  
32S-3A \$2597  
312-B5 VFO \$1212

73 de tom

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: Ronnie Hull <larebel@ms1.nwla.com>  
Subject: EV Mic's  
Message-ID: <1.5.4.16.19961217214708.086ffd54@ms1.nwla.com>

I nice warm firebottle would be good tonight! 29 and snowing in Louisiana!!  
Now, to the point fellow anchormen.. I have 3 Electro Voice 630 microphones  
that I have had for year. One is on a regular mic stand, one is on an  
Astatic TUG stand, and the other is the mic head alone.

Are these a decent Microphone to use with a Ranger or a Valiant? Does anyone  
know the details of its performance? Just curious

Ronnie - W5SUM

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: Robert Fowle <hammarlund@jacksonmi.com>  
Subject: FS collins parts  
Message-ID: <32B76BB2.1773@jacksonmi.com>

Happy Holidays everybody!

have parts from 2 collins 180S-1's..sorry metal knobs gone  
already...have all else...rollers, air variable's, doorknob cap's,  
2 small winged emblems..the 'jack' bar assemblies...  
have 1 vac vari cap..  
if interested email me with what you want and an offer...

--

\*\*\*\* Visit my Web Page.....\*\*\*\*

=====]-[->

Robert Fowle KC8DBC  
1215 Winifred  
Jackson, Mich. 49202-1946  
Ph. 517-789-6721  
E-mail: hammarlund@jacksonmi.com  
Web Page: <http://www.jacksonmi.com/hammarlund>

NOW... BOATANCHORS Conference!  
talk, buy-sell-trade all in one place!  
Moderator: Robert Fowle  
at: <http://www.inetnc.com/hamchat/>

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996

From: J P Taillebois <jpt1@idirect.com>  
Subject: FS/ Collins book/ Ham tips  
Message-ID: <199612171417.JAA23262@nemesis.idirect.com>

For the Collins amateur (which i was at one time) i have an excellent original book published by Collins July 15 1957 Titled: FUNDAMENTALS OF SSB yellow cover with winged emblem, over 100 pages with charts graphs test ect.. Shape in my opinion excellent.

Anyone interested make me an offer postage would be about \$3.00 in NOA

I also have several Ham tips flyer 4 page folders published by GE and RCA from the 50's.

73

Jean Paul Taillebois 996 Greenlane court, Oshawa, Ontario, Canada M1K-2C6  
e.mail jpt1@idirect.com  
packet: ve3jpt@va3bbs  
voice:905-723-1811  
fax/data:905 723-9156  
Collector: Hallicrafters, Central-Electronic, Gonset, Military BA, antique radio memorabilia.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: J P Taillebois <jpt1@idirect.com>  
Subject: FS/ MARCONI CSR-5 rcvr  
Message-ID: <199612171417.JAA23311@nemesis.idirect.com>

I have 3 Marconi CSR-5 rcvrs 2 are for sale. about 75lbs each anyone interested let me know directly and i will describe the shape of each of them.

one is rack mount no power supply  
one is in a cabinet with buit in home brew p/s

Both are working Cosmetics are rough but restorable.  
Photocopy of manual  
Band covered 85khz to 30mhz (no broadcast 500-1.6)

This was used by the Canadian Military WWII vintage . These are the same vintage as the ones aboard the HMCS HAIDA in Toronto which Jerry Proc and his team restored.

I would consider trade for other equipment of same vintage.

73

Jean Paul Taillebois 996 Greenlane court, Oshawa, Ontario, Canada M1K-2C6

e.mail jpt1@idirect.com

packet: ve3jpt@va3bbs

voice:905-723-1811

fax/data:905 723-9156

Collector: Hallicrafters, Central-Electronic, Gonset, Military BA, antique radio memorabilia.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996

From: Richard Hager <rhager@millcomm.com>

Subject: FS: a BA Digital Multimeter!

Message-ID: <32B6983F.75FC@millcomm.com>

Hi Guys and Gals,

If you feel guilty every time you click on the DMM, here's the perfect way to stop sinning!

Dana 5400 Digital Multimeter

4.5 digit Nixie tube display. This was a cadillac of it's day. Very precise at a time when you were lucky to get 3 digits plus overrange.

Vintage 1965. A real boatanchor. Nice desktop case with a motherboard setup internally, stuffed with little plugins, each of which performs one function. Cast aluminum card-racks, and basically built like the proverbial -house...

DC and AC volts from 10mv to 1000v FS. Also has ohms function that will read from tenths of ohm up to megohms.

I bought some other modern DMM's and this was sitting there....I just couldn't resist. I admit to spending -way- more hours than I should have in restoring it. Even did the front panel cleanup and label removal, but not the rest of the case.

Anyway, It all works, seems reasonably well-cal'ed, and I have a copy of service manual for the mainframe (but not the input module, yet).

First \$50 plus UPS from 55104 takes it.

If you must have a DMM, but can't take the guilt anymore, this is for you! grin..

PS: Also have Tek 504 scope. 500khz, nice and clean. First \$40 takes it home. \$50 plus UPS if you want it shipped, as it will take a bit of packing....

Richard

--

Richard Hager

+ Ah-ha! Design Group, Inc. -  
+ Precision CNC Technology, since 1991 -  
+ 612-641-1797, Fax: 612-641-8681 -  
+ "I just like to make things" So... -  
+ please call Ah-ha! directly for CNC info -  
+ <http://www.gdic.com/ahha> email: [ahha@gdic.com](mailto:ahha@gdic.com) -

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: KB9VU@aol.com  
Subject: Re: FS: Heathkit KW Amplifier  
Message-ID: <961217042217\_1389039761@emout18.mail.aol.com>

The Amplifier is sold. Thanks.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: J P Taillebois <jpt1@idirect.com>  
Subject: Help with tubes ID  
Message-ID: <199612171417.JAA23336@nemesis.idirect.com>

Well took apart my R-1155 hf rcvr... I will skip the juicy part of finding that other life forms had at one point lived in the rcvr...i am an optimist...

This is an RAF rig: The tube complement read as follows.

3 each	VR-99	10E/277 or	trade for X65 or X66
3 each	VR-100	10E/278 or	trade for KTW 62 or KTW 61
2 each	VR-101	10E/280 or	trade for MHL 6
1 each	VR-102	10E/279 or	trade for BL-63
1 each	VI-103	10E/305 or	trade for Y61 or Y63 (tuning eye)

No other markings all have the RAF stamp with 1942 on them.

73

Jean Paul Taillebois 996 Greenlane court, Oshawa, Ontario, Canada M1K-2C6  
e.mail [jpt1@idirect.com](mailto:jpt1@idirect.com)  
packet: [ve3jpt@va3bbs](mailto:ve3jpt@va3bbs)  
voice: 905-723-1811  
fax/data: 905 723-9156  
Collector: Hallicrafters, Central-Electronic, Gonset, Military BA, antique radio memorabilia.

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: J P Taillebois <jpt1@idirect.com>  
Subject: Help with tubes ID  
Message-ID: <199612172209.RAA15498@nemesis.idirect.com>

>Date: Tue, 17 Dec 1996 09:14:54  
>To: boatanchors net  
>From: J P Taillebois <jpt1@idirect.com>  
>Subject: Help with tubes ID  
>  
>Well took apart my R-1155 hf rcvr... I will skip the juicy part of finding  
that other life forms had at one point lived in the rcvr...i am an optimist...  
>need the american equivalent..

>This is an RAF rig: The tube complement read as follows.

>  
>3 each VR-99 10E/277 or trade for X65 or X66  
>3 each VR-100 10E/278 or trade for KTW 62 or KTW 61  
>2 each VR-101 10E/280 or trade for MHL 6  
>1 each VR-102 10e/279 or trade for BL-63  
>1 each VI-103 10E/305 or trade for Y61 or Y63 (tuning eye)

>  
>No other markings all have the RAF stamp with 1942 on them.

>  
>73

>  
Jean Paul Taillebois 996 Greenlane court, Oshawa, Ontario,Canada M1K-2C6  
e.mail jpt1@idirect.com  
packet: ve3jpt@va3bbs  
voice:905-723-1811  
fax/data:905 723-9156  
Collector: Hallicrafters,Central-Electronic,Gonset, Military BA, antique  
radio memorabilia.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: vancleef@netcom.com (Henry van Cleef)  
Subject: Re: Help with xformer...  
Message-ID: <199612170700.AAA26711@netcom2.netcom.com>

As David A. Cooley discourses

>  
> Hello all,

> I have acquired a transformer to use in making a 12 volt power supply for  
> mobile equipment in my home shack... It appears really old! Westinghouse  
> makes it, and it is a rectangular can, 4.25" X 4.75" X 6.25" tall. It is  
> potted in what appears to be asphalt.  
>  
> It is a Type EP single phase xformer, 0.50 KVA dual primary for 120 or 240  
> volts (series or parallel of the primaries) 32 volt out. Style is  
> S10N32S51B, frame number 71.  
>  
> I currently have the primary's wired in series for 240, but run them from  
> 110 with a 16 volt output to the bridge, then into my regulator and pass  
> transistors.  
>  
> What I would like to know, is since I am basically running it from 1/2  
> input voltage, will my current carrying ability be lowered or the  
> transformer overheated from this?  
> Thanks,  
> Dave

So far as running a transformer on half the rated input voltage,  
taking the rated (at full voltage) current out of the secondary will  
be OK.

Essentially, other than limits on maximum magnetisation of the core  
(saturation on high voltage or reduced frequency), which is not an  
issue here, the limits on a given transformer are tied to temperature  
rise in the windings. The two principal areas of loss are core losses  
(eddy currents, hysteresis heating, etc) and  $I^2R$  losses in the  
windings. If you draw the rated current from the secondary, the  
 $I^2R$  losses in the secondary, as well as those reflected back  
into the primary as a result of loading, will be the same on half or  
full voltage.

On half voltage, core losses will be lower. The magnetizing current  
of a small (100 VA) transformer generally run about 10% of the total  
current on full load, dropping down toward 5% or less on big  
transformers. Theoretically (and this is very theoretically, not  
"real world") you can operate the transformer with higher secondary  
(and primary) current to equal the full voltage losses (expressed in  
watts).

What makes this theoretical is that transformer thermal design in most  
cases is totally non-scientific. If you take out more current, you are  
moving the heat source from the core to the windings, and may develop  
hot spots. I also note that you describe this as an "old"  
transformer, which means that you are counting on ancient insulation  
to behave "like new."

More to the point, you are talking about running this transformer into



a bridge rectifier, presumably some sort of filter, and a series regulator. What type of load was the transformer originally rated to operate on? If it was an AC pure resistive load (no rectifiers), and you want to run it bridge/cap input, you will have to derate it about 30-35%, because of the terrible load waveshape a cap input power supply presents.

--

=====  
Hank van Cleef  
E-mail vancleef@netcom.com or vancleef@tmn.com  
=====

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: J P Taillebois <jpt1@idirect.com>  
Subject: RE INQUIRIES  
Message-ID: <199612171416.JAA23213@nemesis.idirect.com>

Thanks to the inquiries following my posting of my week end visit. I will try to contact the ham to find out if the stuff is still available and get back to you individually.

73

Jean Paul Taillebois 996 Greenlane court, Oshawa, Ontario, Canada M1K-2C6  
e.mail jpt1@idirect.com  
packet: ve3jpt@va3bbs  
voice:905-723-1811  
fax/data:905 723-9156  
Collector: Hallicrafters, Central-Electronic, Gonset, Military BA, antique radio memorabilia.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: michael.hopkins.1171@corvus.com (Michael Hopkins)  
Subject: Kaar 10-Z eludes us all  
Message-ID: <96121623004034693@corvus.com>

It is three years now since it happened. My son, KC5FDL, bought a KAAR 10-Z from an estate of over 300 rigs it was clearing (many went to Jim Tucker, by the way and I finally found the list).

I allowed each of the guys that helped make the inventory buy something at a fair price from the widow and he took this gray, rounded corner box because it was the only rig he ever heard his dad say he could not identify, besides Collins and military with which a gentleman does not

deal. Foolishly I said "you can always find a manual."

In 1994 we took our pilgrimage to Dayton. Clint was 11, I was 49 and the car 20. It was time to go and there we encountered Pete Mackerage, who claims great expertise in the field of IDing old stuff. This stumped him as it had Al McMilin, late of HI INC and once of WRL cum Galaxy.

We started taking it to hamfests, but no one could say what it was and we tired of lowball offers. We don't want to sell. We want to put a Morse Code Tech on CW with a rig that shows more class than his FT-7.

Next it was an ad in Electric Radio -- nada, and then a posting here -- ditto.

Can you help?

It is about the size of a Meissner Deluxe Signal Shifter (We have one in the attic), but not as deep and it is gray. The top corners are rounded like '40s rigs and the tubes are 6F7s and, of course, an 807 which says later than '35, which we assumed anyway. I suspect the truth, if we ever find it, will be that it was a mid '40s thing held up by the war and offered to a surplus gorged public about the time I was born. I remember Korea and Radio. I have been told by one old timer that "It looks like a Motorola," and by another that KAAR was the US brach of Canadian Marconi.

Of course we can derive the diagram from the device and go from there. Dad is an Extra with a 'Phone. But it will mean a lot more to Clint if we finally find some info on it. When he is in QCWA (he'll be eligible at 34) and we are all dead, maybe he will tell about how those oldtimers could stay at things and come up with something.

73 de AB5L, KC5FDL es mom WD5IEZ

---

\* SLMR 2.1a \*

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: "Morton L. Denison" <mdenison@postoffice.ptd.net>  
Subject: Manual for Dana Laboratories 8010B Freq. Counter  
Message-ID: <32B60F64.2D5B@postoffice.ptd.net>

Does anyone have a manual for a Dana Laboratories 8010B frequency counter? I'd be happy to pay copying and shipping costs.

Hope those glass nixie tubes last a long time.

Thanks,

Mort D.

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: Eugene Rippen <soundval@foothill.net>  
Subject: MISC FS 12/17  
Message-ID: <32B7047F.6CE6@foothill.net>

MISC. HAM GEAR FS:

HEATHKIT HW16. Works. One of the xtal sockets has a chip.  
Otherwise, good looking. \$70.

Military BC 605D iInterphone Amplifieri Untested. Looks complete.  
\$15.

Military BC 603DM 10 tube receiver. Untested. Looks complete  
\$25

HALLICRAFTERS S120. Plays. Has Hum. Looks good to very good.  
\$30

HEATHKIT DX 60B Works. Looks very good. \$80.

GALAXY 3. Looks good. Untested. \$60

NATIONAL NCX3. Looks good. Untested. \$65

DRAKE TR22C. This is a collector's item. With Mic and soft case.  
Receive works. Does not appear to transmit. I don't know what  
xtals are in it. Looks good. \$70.

Add shipping to prices.

Eugene Rippen, 105 Donnington, Auburn, CA 95603

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: aculbert@pps1-po.phyp.uiowa.edu  
Subject: MISC. FOR SALE  
Message-ID: <199612171430.IAA20403@ns-mx.uiowa.edu>

The "I am going to clean up the shack" binge continues, so as promised here are a few more BA goodies for sale:

Item #1) WRL DB-60 This is a tunable 80 through 6 meter tube type preamplifier that provides about 20 dB gain for use with older BAs lacking RF stages. This was sold by WRL in the early 1960s and uses three 6DJ8s. Unit works, cabinet has several minor scuffs, but the panel and dial are flawless. Comes with the ORIGINAL manual. \$35 plus shipping.

Item #2) WRL CAL 25 This is the plug in 25 KHz calibrator module for the Galaxy GT-550 HF transceiver. \$25 shipped CONUS.

Item #3) NATIONAL SOJ-3 (Select-O-Ject) This is the granddaddy of audio filters and dates from about 1950. Cabinet (plastic a la SW-54) has numerous scratches on the sides and top, but the panel and the 4 original knobs are in fine condition. No modifications or extra holes and the copper plated chassis is absolutely without corrosion and has the original fabric covered cord. Sadly, I can't find the instruction sheet that I KNOW I but a few years ago! I haven't seen one of these at any hamfests for at least 10 years. \$45 plus shipping

Item #4) HUNTER Model 25 wattmeter (200 / 2000 watt) with companion Model 26 remote coupler. This unit was manufactured by Hunter Manufacturing, the firm that produced the "Bandit" series amplifiers. Meter matches the "Bandit" and is of the same era (1960s). Unit works and comes with a manual copy. Meter has scuffs and the case has been relettered where the silkscreening wore off. \$45 plus shipping.

Al, K0AL

allan-culbert@uiowa.edu

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: jlyle@netcom.com (Jim Lyle)  
Subject: Nixie Tubes  
Message-ID: <199612171523.HAA25496@netcom14.netcom.com>

> Hope those glass nixie tubes last a long time.

I have a DRAWER full of Nixie tubes of various kinds... at least 40 or 50 I seem to recall. So if anybody needs any please contact me.

--

Jim Lyle

jlyle@netcom.COM

<http://www.troubadortech.com/jlyle/>

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: "Lawrence R. Ware" <lrware@pipeline.com>  
Subject: Orlando Estate Auction notice...  
Message-ID: <1.5.4.16.19961217203905.3e9fb5f0@pop.pipeline.com>

Good evening Firebottle Fans, not a hamfest but close...  
As requested, advance notice of a small estate auction...  
This is from the F.A.W.G. page at the Orlando Radio Relics Web Site.

-----  
Some Upcoming FAWG Activities:\*

\*\*\* ESTATE AUCTION \*\*\* February 1, 1997

Fawg will sponsor the auction of hundreds of AC, battery and crystal radios, early and rare tubes, novelty transistor sets, historical literature, and much more. This is the 40 year collection of the late David T. McKenzie, K0SVJ, founding FAWG member. The auction will be at the VFW hall, 4444 Edgewater Drive, Orlando, FL, on February 1, 1997 at 10 AM. More details will be posted here in December. For a detailed list of items up for bid, send a SASE to FAWG Activities Director, P.O. Box 738, Chuluota, FL 32766-0738.

-----  
I'll be there... Anybody else coming?  
-Larry

# Larry's Home for Wayward Test Equipment & Old Radios (tm)  
# Let your test equipment retire in sunny central Florida.  
# Intensive Care, Private Bench Space, Frequent Use,  
# Factory trained HP, Tek. & Fluke Surgeon on staff.  
# Good Home Guaranteed or double your junk back!  
# lrware@pipeline.com - Orlando, Florida -

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: jlyle@netcom.com (Jim Lyle)  
Subject: Power Cords for HP606B  
Message-ID: <199612180132.RAA14461@netcom8.netcom.com>

Hello;

Does anybody know where I can get a power cord for an HP606B? It uses a detachable cord similar to "IEC" cords that are ubiquitous today, except that the plug on the equipment end is different: it is an oval instead of a square. I have been told this is called an "EIA" connector (EIA \*WHAT?\*), but don't know if that is accurate.

Anybody know what I should be asking for? I note that power cords are designated either SVT, SJT, or SPT today, by the way... any idea what these designations mean?

--

Jim Lyle

jlyle@netcom.COM

<http://www.troubadortech.com/jlyle/>

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996

From: anders@autopsy.corp.sgi.com (Greg Anders)

Subject: Question on use of Wrinkle Paint???

Message-ID: <9612171343.ZM7078@autopsy.corp.sgi.com>

I will shortly receive a shipment from AES including black wrinkle finish for the case on my AR-88. Does this stuff require any special surface preparation or special techniques to achieve the desired result? Any tips or pointers to documents on the subject would be greatly appreciated...

THanks,

--

Greg Anders

"One doesn't discover new lands without consenting to lose sight of the shore for a very long time."

Andre Gide  
French Novelist

anders@autopsy.corp.sgi.com  
KG6YV

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: Paul Nelson <drhydro@ames.net>  
Subject: R-388, R-390 projects AHoy!  
Message-ID: <103010d03aedcc530eb9a@[1.1.1.1]>

Well, the UPS barge docked in front of the Nelson Pier yesterday...  
disgorged an R-388 in its correct cabinet. Pretty rusty cabinet, but the  
388 works so far.. now I've gotta ask about stuff that I should have been  
archiving.

1. Is there anyone who can refinish an R-388 front panel?
2. How about the St. James Grey wrinkle for repainting the cabinet? Who's had  
good luck and what was used?
3. Who had the R-388 dial overlays for sale and are they good quality?

My other R-388 is in much better shape than this one, but if I can find  
someone to refinish the front panel I might just have both done...

but now, I need two more things for the R-388 side...

1. A correct cabinet for my other R-388!
2. A loudspeaker LS-199/U to match 'em.

=====

Coming attractions: An R-390 (non-A.) partially working, good front panel  
w/both meters.... I'm gonna need:

1. Top and bottom covers
2. A manual- either an original or a good copy. Where have folks found the  
best source? Fair's always the fallback, I know.

I tell ye, these fair BA's goin' down into the hold of old 604 Hodge adds  
to the ballast... should make the old ship steady out a bit to ride the  
Iowa winter... at least she'll be ridin' a bit lower in the snowbank! (may  
be a mite over the ol' Plimsoll line as it is, mates.)

Paul Nelson W5GNF  
Ames, Iowa

(DrHydro@ames.net)

"When I go, I want to go quietly, in my  
sleep, like my grandfather- not  
screaming, like his passengers."

"More hay, Trigger?"

Cessna 140 N77149

"No thanks, Roy, I'm stuffed."

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: bdhall@ghg.net (Benjamin D. Hall)  
Subject: R-390 and R-390A engineering reports, again  
Message-ID: <32B75899.3201@GHG.net>

Okay folks... I've made several goofs in the past few days...

Goof #1: It has been pointed out to me that I'm confusing two separate documents in my offer of free "engineering" reports. I checked this evening and unfortunately, this is true. I've been talking about the final engineering report and the cost reduction report like they are the same thing. Well, as several folks have pointed out, they aren't!  
ACK!!!!

So, the two documents I've been referring to are:

COST REDUCTION PROGRAM FOR RADIO RECEIVERS, R-390/391( )/URR - Final  
Progress Report [ed's note: about 30 pages]

-and-

FINAL ENGINEERING REPORT ON RADIO RECEIVERS R-389( )/URR AND R-390( )/URR [ed's note: about 160 pages]

The two are very, very different.

Goof #2: Assuming I could meet the demand for these reports. Well, I figured if I got 20 requests, that would be do-able and no big thing. I've received 80 requests as of my last "get e-mail" clicky. I just cannot make that many copies at work. Also, I don't want to get into the manual business, so here is what I would like to propose:

The COST REDUCTION report is mostly text, with a few pictures of the radio and the modules employed. I'll gladly send a copy to someone with a scanner and OCR software if they will agree to scan it in, convert it to plain text, and post it to the BoatAnchors Archive with Jack's permission. The loss of the pictures is not a detrement to the overall usefulness of the report. This way, everyone can own a copy.

However, the FINAL ENGINEERING REPORT has lots-o-pictures that are needed for clarity. So, what I'm looking for is the following: I need about 10 or 20 volunteers to come forward, who will agree to make 4 or 5



photocopies each and send them along to people who wanted copies. 4 or 5 copies shouldn't be too hard to make at work for any one person, and the postage won't be more than \$10 so no one gets stuck with a big postage bill. I'll provide the addresses, and I'll handle the outside the US requests myself so no one gets stuck sending the stuff to Tim-buck-too [sic] besides me. This way, I don't go broke and everyone is able to share the wisdom provided by these reports. Plus, y'all will get that "deep down good feeling."

Or better put: Santa needs some elves folks, I cannot make all the toys myself as there are more children in the world than I thought!

I feel really crappy about not being able to pull through on my original offer, as I thought it would be a wonderful present to y'all who have helped me out so very, very much. Please flame me direct and not to the list, I've wasted \*waaaaaaaay\* too much bandwidth on this whole thing already.

Thanks and 73,

Ben

--

-----  
From the computer of | Collector of fine firebottle  
Benjamin D. Hall, Houston Texas | equipment, as well as other things  
BDHall@GHG.net (home) -or- | involving Earth, Air, Water, and  
Benjamin.D.Hall1@JSC.NASA.gov | Fire.  
-----

\*\*\*PLEASE NOTE MY NEW HOME E-MAIL ADDRESS above.\*\*\* My old address, BDHALL@GHGCorp.com, will still work for a period of time however.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996

From: bdhall@ghg.net (Benjamin D. Hall)

Subject: R-390/R-390A Final Engineering Report

Message-ID: <32B69BB9.531@ghgcorp.com>

Hiya folks, been overwhelmed with the amount of requests for the Final Engineering Report (that is the title on the document) on the R-390/R-390A series of receivers. Have almost 50 requests sitting at home and a few more here at work, so I'm not going to be able to get copies made and get them all out before I head north (into the cold, brrrrrr, but then again, it is cold here) to Alabama for Christmas. Never fear, I'll get the remainder out after New Year's.

Still free, as this is my way of saying thanks to y'all for all of your help in my 1 1/2 years as a BA subscriber.

73,  
Ben  
--

Benjamin D. Hall, Houston Texas - Junque collector extraordinaire.  
E-mail: BDHall@GHG.net (home) -or- Benjamin.D.Hall1@JSC.NASA.GOV  
\*\*\* PLEASE NOTE NEW HOME E-MAIL ADDRESS SHOWN ABOVE. \*\*\*

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: avidov@juno.com (abe nutkis)  
Subject: R-390A P.S.  
Message-ID: <19961216.085531.6510.1.avidov@juno.com>

During the past month someone was looking for the Octal Base  
plug in caps(Ref.C-606 and C-609.I can help them if they will  
post the request to Avidov@Juno.com.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: "Morton L. Denison" <mdenison@postoffice.ptd.net>  
Subject: R390A below 9Mhz  
Message-ID: <32B611CC.6AFB@postoffice.ptd.net>

My R390A has started doing a number under 9Mhz. When I switch to a band  
between 0-8Mhz the radio will have only hiss for a minute or two, even  
using the calibrator. Then it starts acting normally. I've checked the  
tubes on the RF deck for this part of the circuit.

Could it be a bad 17Mhz crystal? How would one check it? Anybody have  
this problem before?

Thanks in advance,

Mort D.

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: km1h@juno.com  
Subject: R4C Product Detector help  
Message-ID: <19961217.010743.9911.9.km1h@juno.com>

The early Satori mod used a MC1496 which has limited dynamic range and  
requires a lot of support parts and Sherwood used the TL442 which is  
discontinued. What is the IC of choice these days? Are Sherwood front end  
CW filters still available?

I have the urge to get an R4C again.

Tnx.....Carl

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: azoth@netcom.com (Az0th)  
Subject: Re: R4C Product Detector help  
Message-ID: <199612180156.UAA26670@netcom6.netcom.com>

Hello Carl and the group,

> The early Satori mod used a MC1496 which has limited dynamic range and  
> requires a lot of support parts and Sherwood used the TL442 which is  
> discontinued. What is the IC of choice these days? Are Sherwood front end  
> CW filters still available?  
>  
> I have the urge to get an R4C again.

I recognize that urge! (have 3 of them, now...)

Alan N3BJ has a goodly supply of TL-442 chips still for \$15 each, shipped,  
and may still have the Sherwood PC board for it as well, if you want one.  
I've been wondering whether an NE602 would play as well in this application,  
though. Will that part run OK as low as 50 kHz, do you think?

I haven't heard of the 1st IF filters being available for a while now.  
but a possible option is to rob the USB/LSB pair from a junker T-4X?,  
along with their matching transformers, and patch those into the 1st  
IF. I'm going to give this one a try, based on info from one of the  
old ARRL Hints and Kinks (thanks John!) I'm also going to give an  
LM-317 regulator a try, instead of the usual 7812 (thanks Larry!), and  
leave the stock AF amp in place, but rebaised for reduced quiescent current  
drain (ie, something less than 800 mils).

There's a lot to be said for a well-tuned R-4C. ;-)

73 de KF4FJH - RF Buchanan

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: wb6zwc@ns.net  
Subject: Re: SB610 Monitor Scope  
Message-ID: <199612172103.NAA01115@eagle.ns.net>

George: I posted a source to the net recently; however, Allied has those

puppies at 1-800-433-5700 but they have a \$25 min. order. Luck!

>At any rate, I'm now in need of a .15uF, 1600V axial lead capacitor.

>George Sieverson

>Barrington, IL

>K9GDT@JUNO.COM

>\*\*\*\*\*

>

>

Richard@Sacramento

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996

From: carl yaffey <cyaffey@sprynet.com>

Subject: Sharper Image "BA"

Message-ID: <2.2.32.19961217144502.0074187c@m1.sprynet.com>

Yes, Folks, you can now buy a gen-u-wine "BA" from the Sharper Image store. They have a BC radio for sale that is designed with BA-like features - "tubes" that light, and various dials and switches. I didn't know whether to laugh or cry.....

Happy Holiday es 73, Carl K8NU

-----  
Carl Yaffey K8NU (ex-W4EZB) cyaffey@sprynet.com 614 268 6353 Columbus OH  
Banjo player for One Riot One Ranger, independent software developer.

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  /~~\
 |#===||=====|*~*~*|
  \__//
```

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996

From: Bob Roach <KE4QOK@worldnet.att.net>

Subject: Re: Sharper Image "BA"

Message-ID: <19961217161336.AAB5116@LOCALNAME>

At 02:54 PM 12/17/96 +0000, you wrote:

>Yes, Folks, you can now buy a gen-u-wine "BA" from the Sharper Image store.

>They have a BC radio for sale that is designed with BA-like features -

>"tubes" that light, and various dials and switches. I didn't know whether to  
>laugh or cry.....

I saw this. Seems to me it's a lot like putting a fiberglass Dusenbergs body on a VW frame. If there is a market for the "old look" why not manufacture

a true replica.

73 es TNX

KE4QOK                Real radios glow in the dark.

Bob                Power is no substitute for skill.

                  If it stayed up last winter, it was too small.

136 Hermitage Rd.

Newport News, Va. 23606 KE4QOK@worldnet.att.net    [try here first]

(757)930-0348        bob.roach@sourcebbs.com

From boatanchors@theporch.com   Tue Dec 17 22:22:05 1996

From: Gary Youney <72302.2164@CompuServe.COM>

Subject: Spline screws?

Message-ID: <961218014025\_72302.2164\_DHR73-1@CompuServe.COM>

Does anyone know what tool is used to extract the set screws in an SX115? (It's the same for the vernier knob in an NC303.)

It looks like a 4-edged spline of some sort. Not hex, but four sided. The edges of a small phillips sort of fit, but not snugly.

Any ideas?

73, Gary   K5QT

From boatanchors@theporch.com   Tue Dec 17 22:22:05 1996

From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>

Subject: Re: Spline screws?

Message-ID: <199612180329.VAA22093@lesol1.dseg.ti.com>

At 07:42 PM 12/17/96 -0600, Gary Youney wrote:

>Does anyone know what tool is used to extract the set screws in an SX115?

(It's

>the same for the vernier knob in an NC303.)

>

>It looks like a 4-edged spline of some sort. Not hex, but four sided. The

>edges of a small phillips sort of fit, but not snugly.

Some Hallicrafters radios had Bristol splines. My HT-37 uses some four-point Bristol set-screws. I imagine that's what you're seeing in the SX-115. I don't have a clue as to the size though.

Regards,  
Bill Sorsby, N5BU            bill.sorsby@dlep1.itg.ti.com  
Grapevine, TX 76051

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: "Ray L. Mote" <rmote@rain.org>  
Subject: SSON "sale" in QST  
Message-ID: <Pine.SUN.3.95.961217095451.6894C-100000@coyote.rain.org>

Noticed the ad about inventory reduction and called Surplus Sales of Nebraska. Bob Grinnell advised that "onesy-twosie" sales simply weren't economical for him, and that he's really looking for \*large\* buys. Ok, so much for that idea. Inquired about some parts for my KWM-2 and KWM-2A, and ended up buying two sets of Mic, RF gain, and AF gain pots plus function switch for \$75 a set. It would appear that he \*has\* dropped his prices somewhat. That function switch alone listed in his catalog #6 for \$45, and pots were \$22 each.

I do \*NOT\* want to start a thread here on SSON high prices -- we've been through that before and it's pointless. Just wanted to mention that there has been a small decrease. If he does manage to sell off that stock, Murphy's Law says you'll pay more later. <wry grin>

73.....Ray Mote, K5FKT <rmote@rain.org> Oxnard, CA

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: Scott Robinson <spr@earthlink.net>  
Subject: Start-up sequencers and bizarre logic circuits  
Message-ID: <32B70773.1F9B@earthlink.net>

Well, it isn't strictly a BA, but a film recorder or dubber occupies all of a 6 foot rack, and is basically a tape recorder using 35mm sprocketed film as tape. Movies sound studios use these by the dozens. Big, heavy stuff.

The MTE units I know best use a...hyrid...logic family to control the transport, mounted on a large PC board: half CMOS (very static sensitive) and half 120 VAC relays! I have to say that it worked, despite the juxtaposition. Reel tension control by tension arms driving Variacs through a pair of

gears, yes, this is a BA!

Regards,

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996

From: Jim Lyle <jlyle@netcom.com>

Subject: stopper resistors and screen bypass caps

Message-ID: <9612171716.AA25735@galaxy.nsc.com>

Hello;

I am uncertain of the proper relationship of a screen's stopper resistor and it's bypass cap. The stopper resistor needs to be a value something like 22-40 ohms I understand, placed between the screen and the b+ supply, but where does the bypass cap go? Is it on the b+ side, or on the screen side?

The radio in question is "motorboating" at 10-100 Hz, and it seems to be caused by low frequency feedback through the B+ supply. The bypass caps in the b+ supply will have little effect at these frequencies. I think the feedback path is via the screens, but am not sure of that. How can I narrow down what's actually happening?

The bypass caps in the B+ supply and on the screens will have little effect at these low frequencies, and on the scope I can see that they do almost nothing to attenuate them. I don't just want to throw capacitance at the problem though... there's GOT to be a better way.

Jim Lyle  
jlyle@netcom.com

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996

From: vancleef@netcom.com (Henry van Cleef)

Subject: Re: stopper resistors and screen bypass caps

Message-ID: <199612171949.MAA14677@netcom6.netcom.com>

As Jim Lyle discourses

>

> Hello;

>

> I am uncertain of the proper relationship of a screen's stopper  
> resistor and it's bypass cap. The stopper resistor needs to be  
> a value something like 22-40 ohms I understand, placed between the

> screen and the b+ supply, but where does the bypass cap go? Is  
> it on the b+ side, or on the screen side?

Screen supply for something like a 6SK7 (around 3ma. screen current) is generally provided by inserting 2K or so in the B+ feed, and hanging a .01 or .02 mike cap to ground AFTER the resistor (i.e., on the screen side). This provides AC ground at RF frequencies for the supply to the screen.

If screens and/or plates are in-phase, and fed from the same B+ line, they must be decoupled. Example: RF preamp and 1st IF, with a mixer between them. These are in-phase. The AA5 gets away without decoupling because the 12SA7 screen is 180 degrees out of phase with the 12SK7 screen.

>

> The radio in question is "motorboating" at 10-100 Hz, and it seems  
> to be caused by low frequency feedback through the B+ supply. The  
> bypass caps in the b+ supply will have little effect at these  
> frequencies. I think the feedback path is via the screens, but am  
> not sure of that. How can I narrow down what's actually happening?

I'd have to know more about "the radio in question." Audio frequency parasitics ("motorboating") require much longer time constants to suppress, and in a design that "used to work OK" you are generally looking at electrolytic caps that have developed significant impedance to AC.

>

> The bypass caps in the B+ supply and on the screens will have little  
> effect at these low frequencies, and on the scope I can see that they  
> do almost nothing to attenuate them. I don't just want to throw  
> capacitance at the problem though... there's GOT to be a better way.

>

If the B supply is pumping away at audio frequencies, you are going to see the low frequency on the whole B+ distribution. You need to troubleshoot in the low frequency filtering of the B+ circuit---the caps and inductors following the rectifier.

Also check any decoupling electrolytics in audio stage cathode circuits. Failures here generally cause low gain, but can contribute to parasitic behavior.

--

=====  
Hank van Cleef

E-mail [vancleef@netcom.com](mailto:vancleef@netcom.com) or [vancleef@tmn.com](mailto:vancleef@tmn.com)

=====



From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>  
Subject: RE: Subject: 100V On the Air Again!  
Message-ID: <199612170349.VAA01393@lesol1.dseg.ti.com>

At 08:01 PM 12/16/96 -0600, Bob Roehrig wrote:

>On Mon, 16 Dec 1996, Mike Sewell wrote:

>>

>> I battled the 100V hum problem some years ago without glorious success.

>

>If I may butt in on this thread, perhaps the problem is a ground loop.

Actually, the 100V is much better designed in this area than lots of rigs, making the "hum" all the more surprising. It's kinda hard to explain the 100V's input circuit but the essence of it is that the input amplifier's cathode circuit is connected to the mic ground at the rig's mic connector! This may not guarantee the absence of ground loops but should help.

The other interesting thing is that turning the mic level all the way down only reduces the hum about 10 or 15 dB, suggesting either a ground loop in the second audio amplifier stage or pickup through the interstage wiring.

Interestingly, late in the 100V's production life, Central Electronics began installing a shield bracket around the microphone connectors specifically to reduce hum. My 100V, being a later model, already has this shield bracket installed.

Obviously, Central Electronics was aware of the 100V's hum problem but unable to resolve it fully. Perhaps the extreme measure taken by Lou, W5BM, who used DC on the filaments, wasn't so far fetched after all. It would be interesting to know whether the 200V is better in this regard. I recall reading that CE redesigned the audio input stages to yield higher gain in order to allow use with low level microphones.

At any rate, I don't want to redesign of the audio stages or make extensive modifications, although I'd certainly consider incorporating a minor mod or two if it would resolve the hum problem.

Regards,

Bill Sorsby, N5BU            bill.sorsby@dlep1.itg.ti.com  
Grapevine, TX 76051

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: roecker.greg@ist.mds.lmco.com

Subject: RE: Subject: 100V On the Air Again!

Message-ID: <Chameleon.850826364.greg@roeckerpc.ist.mds.lmco.com>

>Interestingly, late in the 100V's production life, Central Electronics began  
>installing a shield bracket around the microphone connectors specifically to  
>reduce hum. My 100V, being a later model, already has this shield bracket  
>installed.

>interesting to know whether the 200V is better in this regard.

-----End of Original Message-----

The microphone input on the 200V (and 100V as well) is in a rather "busy" piece of real estate on the chassis . . . I guess its no more crowded than modern rigs, but the microphone input on the 200V routes all the audio input right through the middle of the power supply section. The metal shield around the connectors I believe would help to eliminate any stray noise from entering at the connector. The audio cable, which snakes its way through the power supply section, could be a source of noise pickup if the shield is not properly terminated.

As a data point, my 200V (before I rebuilt the power supply) did not have any hum at all. As a matter of fact, the audio is some of the nicest SSB and AM audio I have ever heard. Yeah, you guessed it, I'm really sold on the 200V . . .

73, and Happy Holidays to all on the BA,

Greg Roecker / N40SJ

-----  
Greg Roecker

E-mail: roecker.greg@ist.mds.lmco.com

Voice: 770.698.5226

Fax: 770.698.5220

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996

From: Eugene Rippen <soundval@foothill.net>

Subject: SWAN"s FS

Message-ID: <32B7044A.71BF@foothill.net>

This is a multi-part message in MIME format.

-----77BF7A05ADC

Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Add Shipping to the following

Eugene Rippen 105 Donnington, Auburn, CA 95603

-----77BF7A05ADC  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit  
Content-Disposition: inline; filename="SW121796.TXT"

SWAN GEAR FS:

SWAN 500CX /508 Auxil. VFO /Phone Patch /VOX unit /117xc  
PS-Spkr. Works good except output down a little, maybe could  
use new finals? Looks very GOOD. \$250.

SWAN 500CX /PS (no speaker cabinet. Works good, Looks good  
\$130.

SWAN 240 Looks Fair to good. No PS. Not tested. \$65

SWAN 260 Cygnet. (Self contained PS) Works. \$110.

-----77BF7A05ADC--

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: Richard Hager <rhager@millcomm.com>  
Subject: Re: Test Gear etc.  
Message-ID: <32B62BFA.371F@millcomm.com>

Henry van Cleef wrote:

>  
> >From a personal perspective, a large part of my enjoyment is to have,  
> for my own use today, items that were top dollar capital equipment  
> treasures when I started trying to wear a serious hat as an engineer  
> forty years ago.

I couldn't have said it any better. I ACHED for many of these units as recently as 10-15 years ago, thinking I'd never ever be able to own something so fine. Now it's possible, and I readily admit to being a little nutty about acquiring it. My wife lets me get away with spending a couple K/yr on it because it's the only expensive hobby I have.

While I -do- use a fair bit of it in my work designing industrial controls, I have to admit that many of my purchases are simply from the love of a particular instrument and the intense satisfaction of owning one.

I don't have any preference for hollow vs. solid, but I am terribly impressed by what was accomplished, with what for the most part, were basically cheap consumer receiving tubes.

Thanks for putting good words to the feeling Hank.

Richard

That apprenticeship began with an in-depth  
> on-the-job exposure to the idea that you can make accurate  
> measurements, and do good design work, using simple instrumentation.  
> This led to a career working in instrumentation that lasted twenty  
> years, and that is still valuable to me today. So I get particular  
> enjoyment out of working with this stuff, and think readers of this  
> list will recognize this in my attempts to share with others some of  
> the things I learned from some pretty sage old-timers.  
> >  
> So far as distinguishing between vacuum tube, hybrid  
> tube-semiconductor-and all semiconductor stuff, I realize that the  
> focus of this list is on vacuum tube-only equipment. But when you  
> consider that the last of the all-tube Tek scopes were introduced in  
> 1959 (581/5, 503)---and that the first "all-transistor" scope (321)  
> came along only months later, you have to consider the value of  
> inexpensive items (relative to first cost) like the 545B and 547, with  
> 1A1 and 1A4 plugins, which were hybrid->all-transistor, on your bench.  
> The 321 had nuvistors in it, which made it a hybrid. There are some  
> interesting challenges involved in replacing sick semiconductors of  
> the sixties, and getting the unit working again---but I've found it  
> relatively easy to use common "dimey" silicon transistors in place of  
> germanium stuff that hasn't be made in thirty years. From my personal  
> perspective, I worked with a lot of hybrid instrumentation in the  
> sixties, and so don't have any allergies toward working with or  
> talking about early solid state stuff. Indeed, I think this is one  
> area where there isn't much "expertise" anywhere on  
> Internet-accessible lists or Usenet newsgroups.  
>  
> Boonton Radio, General Radio, Measurements Corp, Ballantine, are all  
> names that have vanished long since. "Genrad" has forgotten---and  
> orphaned---its history, and I sense the Tektronix is about the same

> these days. I don't know about Hewlett-Packard or Marconi these days,  
> but sense that HP has lost a lot of its expertise in handling things  
> they made as recently as fifteen years ago. Anything that's got these  
> names on them is good stuff, and should find new homes.

>

> > I see all of your comments and info so you and Larry along with  
> > Hank Van seem to be the ones in the know here.

> >

> I'd be interested in knowing what you've got, and while I may not  
> recognize a lot of the items, I think others on the list can fill in  
> some of the blanks.

> --

> =====

> Hank van Cleef

> E-mail vancleef@netcom.com or vancleef@tmn.com

> =====

--

Richard Hager

+ Ah-ha! Design Group, Inc. -  
+ Precision CNC Technology, since 1991 -  
+ 612-641-1797, Fax: 612-641-8681 -  
+ "I just like to make things" So... -  
+ please call Ah-ha! directly for CNC info -  
+ <http://www.gdic.com/ahha> email: [ahha@gdic.com](mailto:ahha@gdic.com) -

From boatanchors@theporch.com Tue Dec 17 08:35:22 1996

From: 4CX250B@miavx1.acs.muohio.edu

Subject: RE: Tone oscillator on KWM-1. Problem Fixed!

Message-ID: <v03007801aedc5fd4124b@[134.53.5.143]>

Thanks to all who made suggestions regarding the defunct audio tone oscillator on my KWM-1. I never did figure out what was wrong, and I ended up stripping out all components from the tone oscillator and rebuilding the oscillator from scratch, using new components. As I removed each of the old components, I tested them individually on a capacitance meter or ohmmeter and all seemed normal (though some were slightly out of tolerance). In any case, when I turned on the rebuilt circuit, it worked fine. My best guess is that one of the mica caps failed under d.c. voltage, but worked okay at the zero voltage test conditions of my capacitance checker. Somebody needs to design a capacitance checker with a variable d.c. voltage load control.

Incidentally, as I've been going through the KWM-1 stage-by-stage, I've found quite a number of bad mica caps. They have caused a noisy popcorn sound in the audio, and rendered the alc inoperative, among other problems.

The caps tend to become noisy and leaky under d.c. voltage, but don't short out, thus making diagnosis difficult. The "black beauty" caps (which, regrettably, the radio is full of) at least have the grace to announce their demise by short-circuiting completely and oozing white gunk.

I also figured out why Collins used such an (irritatingly) high frequency cw sidetone in the KWM-1 and KWM-2. In diagnosing the sidetone problem in my KWM-1, which has a 2000Hz frequency, I observed that the oscilloscope waveform showed noticeable 2nd harmonic distortion-- as is typical for simple RC phaseshift oscillators. CW in these radios is obtained by injecting the audio sidetone into the microphone preamplifier. By using a 2000 Hz sidetone frequency, the second harmonic falls outside the 3.1kHz bandpass of the mechanical filter. Thus one doesn't transmit a "ghost" cw note displaced 4000Hz from the carrier frequency, because the mechanical filter takes it out. If Collins had used, e.g., a pleasant-sounding 600Hz sidetone, thousands of KWM-1 owners would have received pink tickets from the FCC for spurious signals. (You do remember the good old days, don't you, when the FCC actually policed the bands?)

Once I get the rig fully restored, I'll write up a posting on the entire project. In the meantime, my tone oscillator problem is now solved!

73,

Jim W8ZR

From boatanchors@theporch.com Tue Dec 17 14:45:21 1996  
From: pmills@A.crl.com (Phil Mills)  
Subject: RE: Tone oscillator on KWM-1. Problem Fixed!  
Message-ID: <199612171425.AA10815@A.crl.com>

>Somebody needs  
>to design a capacitance checker with a variable d.c. voltage load control.  
>  
Jim,

Thanks for the update on the sidetone oscillator. As for the cap checker, get a variable d.c. bench supply such as an old Heathkit or whatever. You can use it for electrolytic reforming...plus, when you suspect a bad mica or tubular, you can disconnect one end then place it in series with a NE-51 or NE-2 neon bulb and the dc supply.... run the voltage up and the neon will show any leakage right away.

73, Phil

.

Phil Mills, AB5TH                    \*\*\*\*    \*\*\*\*\*  
pmills@a.crl.com  
281-992-5762 DAYS  
Friendswood, TX    (south of Houston)

From boatanchors@theporch.com   Tue Dec 17 08:35:22 1996  
From: jkh@lexis-nexis.com (John Heck)  
Subject: Use of the 1626  
Message-ID: <9612171416.AA00954@beans.lexis-nexis.com>

Folks,

I haven't been able to keep up with the digests very well lately but I did notice a thread running on the 1626 tube and its uses. I am in the process of restoring a Heathkit Model C-3 Condenser Checker, and this unit uses a 1626, oddly enough, as a half wave rectifier! The 1626 in my unit is a nice little G bottle triode, which my 1954 ARRL handbook lists as a triode transmitting tube. My 1956 handbook notes its base diagram(6Q) but does not offer any technical information it, so I assume it was regarded as rather obsolete by that time. I understand that Heath cut costs by using as many obscure, surplus components, as possible, so I am not really surprised by their use of the 1626. The plate and grid are tied, 500VAC being fed to the plate/grid, and 150VDC shows up at the cathode. The 1626 also has a pin for a connection to the "shell" a component of the tube with which I am not familiar, and which the C-3 just uses as a tie point. The C-3 uses the unknown cap as one leg of a bridge and indicates the null point with a 1629 "magic eye" tube. The brightness of the magic eye is unacceptably low, and I suspected low voltage on the plate of the cathode ray section of the 1629(the other section being a triode amplifier). This is supplied by the 150+ off the 1626(as rectifier), and was indeed found to be low, about 115+ VDC. Heath suggests that voltages may be off 20% but this seems to be a bit too low. The transformer AC voltages are as advertised so I suspect the 1626. I haven't taken the time to locate a new 1626 to try out in the circuit, and frankly, probably will not, because the C-3 is a pretty poor condenser checker, at best. I picked this little guy up at a flea for 5 bucks and unless someone hollers that its gotta be preserved for posterity, its gonna become the foundation for my next homebrew regen project. It has a nice clean little chassis with a neat cabinet. The 1626 might even make a pretty good detector, even though it's a 12v, and, as I recapped it, its got some useful components to start off with. Magic eye tubes are always in demand with the antique radio fans(being one myself) so I guess I'm getting my moneys worth. Sorry for the long rambling note but I thought somebody might be interested in another use for that 1626 ;^)

Regards,  
John Heck, KC8ETS  
1009 Donson Drive  
Dayton, Ohio 45429  
(513)865-7036(work)

jkh@lexis-nexis.com

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996

From: wb6zwc@ns.net

Subject: VOA(long)

Message-ID: <199612180017.QAA15247@eagle.ns.net>

The Voice of America at Delano.

Just returned for a good visit with Gene Pitts (wa9rwr) plant boss. Chief tech is Gary ..... N2AD. Aside from the very large transmitters and antenna systems there is a receiving site that is being sold by the GSA.

The receiving site is fourteen miles away. It has a 100kw generator, a building for receiving, several RACALS (older versions) and four rhombics all on 100' towers. It also includes 80 acres of land. The RACALS are the tube type (ok Jack).

The last bid received was \$28,000 and bidding has been open for six-months.

An ideal site for persons inclined to DX.

Problem: the environmentalists have declared the 80 acres a "marsh" land and my understanding is nothing can be done with the land except for cattle grazing.

The VOA in North Carolina is also selling the receiving site.

Delano has four 150,000 watt high level AM transmitters. What is unique is they are "Swiss" and the tubes are also "Swiss". The transmitters use "solid state" high level modulation and are able to simulate the voltage swing from some low value to 17KV. The reactance modulation transformer is not present! Light fibre technology is used for the monitoring and control of the modulation section and also determines the "zero" state (no modulation).

The power supply is fully controlled with a bank of TRIACS where the gates are controlled with light fibre technology. The power supply is pulled-up very slowly and has other features that allow protection from unexpected line fluctuations on the supply line.

The Collins 250,000 watts transmitter is still being used. I believe there may be four that are still on line, including one in Canada.

An interesting comment is that the Collins is by far the superior transmitter as time has tested. The "newbes" have lots of trouble and replacement parts are very expensive or nonexistent.



I seems some of the foreign manufactures are so proud of their processes that it will not be shared with the people using the equipment. The word is "proprietary"; yes, we will make you a new one but will not give you the information on how to do it. A case in point is a very large 3 phase transformer that thanks to Petr Dahl was able to reconstruct the unit with added technology.

Anyway, I could go on and on but if in the area be sure to stop by and say \*howdy\* to the hambones at the VOA at Delano(Gene and Gary).

One further note, call ahead. I was greeted with a possible introduction to the FBI, full identification, finger prints, photographs and two forms of ID. To say nothing of a week waiting period that is required.

725-7292

=====  
Richard@Sacramento

From boatanchors@theporch.com Tue Dec 17 22:22:05 1996  
From: "Andy Howard, WA4KCY" <102452.362@compuserve.com>  
Subject: Wanted 9 Pin Socket  
Message-ID: <199612171946\_MC1-D6A-A9B4@compuserve.com>

I am in need of a 9 pin chassis mounted socket for the power supply that I am constructing for the Valiant II sideband adapter. One of those strange Johnson things. The cable is already made up from the factory and I would like to keep it as original as possible. Looks just like an 8 pin octal tube socket with one extra terminal.

Thanks and Merry Christmas to all,

~~~~~  
Andrew E. (Andy) Howard, Sr., WA4KCY  
15 Sweet Bay Lane  
Carrollton, Georgia 30116-8519  
Telephone 770-832-2222  
Southeastern Division Director, AM International  
102452.362@compuserve.com  
wa4kcy@usa.net wa4kcy@juno.com  
Vintage Radio Home Page Address:  
<http://ourworld.compuserve.com/homepages/sweetbay>  
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"Our Constitution was made for a moral and religious people.  
It is wholly inadequate for the government of any other."

John Adams-1798

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From boatanchors@theporch.com Tue Dec 17 08:35:22 1996  
From: George Humphrey <gah@koyote.com>  
Subject: WTB: Heath IP-32 or HP-23 Power Supply  
Message-ID: <1.5.4.32.19961217045420.006d7870@mail.koyote.com>

BAers,

I am interested in buying a:

Heath IP-32. It's variable from 0-400VDC and capacity of  
up to 100 ma of current.

Or a

Heath HP-23, HP-23A, HP-23B, HP-23C. They provide 750VDC at  
250ma.

Anyone have one needing a home?

Thanks,

73 George KC5WBV  
gah@koyote.com